

THE OFFICE ACTION

In the previous Office Action, the Examiner rejected claim 22 under 35 U.S.C. §112, second paragraph, as being indefinite. The Examiner also rejected claims 16, 18-20 and 23-25 under 35 U.S.C. §102(b) as being anticipated by or alternately under §103(a) as being obvious over U.S. Patent No. 5,275,736 to O'Dowd (O'Dowd). The Examiner also rejected claims 16, 17 and 23 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,273,650 to Vermes et al ("Vermes"). The Examiner further rejected claim 16 under 35 U.S.C. §102(b) as being anticipated by or alternately under §103(a) as being obvious over U.S. Patent No. 5,662,808 to Blayney et al ("Blayney").

REMARKS

Applicants have given careful consideration to the previous Office Action. Reconsideration of the application is respectfully requested in light of the above amendments and the following comments.

With regard to the §112, second paragraph indefiniteness rejection, Applicants have amended claim 22 to now recite the pore size of the membrane and removed the recitation of nanostructure.

A. The present claims are not anticipated by O'Dowd

The Examiner rejected claims 16, 18-20 and 23-25 under 35 U.S.C. §102(b) as being anticipated or obvious over O'Dowd. Applicants respectfully traverse.

This same issue was the subject of an appeal in the parent application, U.S. Serial No. 10/059,577, which the Examiner was also assigned. In that case, the Board of Appeals agreed with the Applicants that O'Dowd failed to render the claims unpatentable based on the same reasons set forth below.

O'Dowd relates to a method of producing an aqueous solution of thermodynamically free iodine in which iodine passes by dispersion through an iodine solving solid barrier until vapor pressure equilibrium is reached. O'Dowd makes it clear that the solid barrier is nonporous. That is, the iodine in O'Dowd passes through the solid barrier by solubilizing in the solid and diffusing through the barrier. It is clear that the iodine does not pass through pores in the material (see col. 4, lines 6-16). Further

support for this can be found in col. 6, lines 33-38, which lists acceptable materials for the iodine solving barrier as linear polyethylene, isotactic polyethylene, polyoxymethylene and polybutylene terephthalate. These materials are not porous.

In fact, O'Dowd clearly discloses that the membrane used therein is nonporous where he states "a source containing thermodynamically free iodine is introduced on one side of a non-porous barrier." (col. 4, lines 6-16). Further support for this can be found in the block quote above, which recites that the barrier is "solid". Although the Examiner is apparently attempting to equate "porous" with "permeable", there is clearly a patentable distinction between the two as can be seen above.

The present invention, on the other hand, relates to a device for producing an aqueous solution of iodine from iodine vapor transferred across a porous membrane from an iodine source. In this respect, a porous membrane is used to hold the iodine source, with the iodine passing by vapor permeation through the membrane pores, rather than by solubilizing the iodine in the solid barrier as disclosed in O'Dowd. As disclosed in the Background of the present application, the use of a porous membrane allows for an increased rate of iodine permeation through the membrane as compared to the use of solid iodine solving barriers as disclosed in O'Dowd. Because O'Dowd fails to disclose the transfer of iodine vapor across a porous membrane, it fails to anticipate the present claims.

O'Dowd fails to anticipate the claims for the further reason that it fails to disclose a membrane that is permeable to both iodine vapor and water vapor. In this respect, O'Dowd discloses that the barrier for use in his invention is solid and impermeable except with respect to iodine that can permeate through the membrane by solubilizing in the solid. The membrane thus acts as a solvent to the iodine. There is no indication that water vapor is also permeable to the solid barrier of O'Dowd. In fact, having a solid barrier that was permeable to water vapor would hinder the process described in O'Dowd since the process is driven by the vapor pressure differential between the two sides of the barrier. Allowing water vapor to diffuse through the solid barrier would allow the vapor pressure to equilibrate with a reduced transfer of iodine from one side to the other. Further, and as described previously, the materials provided for the iodine solving barrier, including polyethylene, polyoxymethylene and polybutylene terephthalate are typically impermeable to water vapor. For at least these

reasons, O'Dowd fails to anticipate the present claims.

B. The Present Claims are Patentable Over Vermes

The Examiner further rejected claims 16, 17 and 23 as anticipated by Vermes. Applicants respectfully traverse.

Vermes discloses a replaceable water filter cartridge for water filtration systems. The Examiner attempts to equate the pre-filter 26 of Vermes with the pouch of the present invention. However, the pre-filter of Vermes is clearly designed to allow water to flow through the filter while removing sediments and other particles from the water (col. 2, lines 61-63). As amended, the membrane forming the pouch or sachet of the present invention is substantially non-permeable to liquid. Thus, Vermes does not anticipate or render the present claims unpatentable. Applicants respectfully request withdrawal of this rejection.

C. The Present Claims are Patentable Over Blayney

The Examiner further rejected claim 16 as anticipated or obvious over Blayney. Applicants respectfully traverse.

Blayney discloses a bag containing a water disinfecting material that is placed in water to treat it. As clearly disclosed in Blayney, the bag is formed from a water-pervious (i.e. water permeable) material (col. 4, lines 62-63). As amended, the claims recite that the present membrane is substantially impermeable to liquid, including water. Thus, Blayney fails to anticipate or render the present claims obvious. Applicants respectfully request withdrawal of this rejection.

CONCLUSION

In view of the foregoing comments, Applicants submit that claims 16-25 are in condition for allowance. Applicants respectfully request early notification of such allowance. Should any issues remain unresolved, the Examiner is encouraged to contact the undersigned to attempt to resolve any such issues.

If any fee is due in conjunction with the filing of this response, Applicants authorize deduction of that fee from Deposit Account 06-0308.

Respectfully submitted,

FAY, SHARPE, FAGAN,
MINNICH & McKEE, LLP

Date: Dec 16, 2005



Joseph E. Waters
Reg. No. 50,427
1100 Superior Avenue, Seventh Floor
Cleveland, Ohio 4411-2518
(216) 861-5582